



# NRC NEWS

## U.S. NUCLEAR REGULATORY COMMISSION

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S-12-011

**“Assessing Progress in Worldwide Nuclear Safety”  
Remarks of NRC Chairman Allison M. Macfarlane  
International Nuclear Safety Group (INSAG) Forum  
IAEA, Vienna, Austria  
Monday, September 17, 2012**

Thank you. It is a pleasure to be here today. This is my first General Conference as Chairman of the NRC. I'm happy to have this opportunity to meet with and hear from so many of my colleagues about their programs, and in particular, their accomplishments and challenges over the past year. I'd like to thank Dr. Meserve for inviting me to speak at this forum, for his leadership of the International Nuclear Safety Group, and for imparting countless helpful words of wisdom to me about his experiences as a former NRC Chairman.

Since the initial days following the Fukushima-Daiichi accident, the international community has taken seriously its objective of assessing and working to enhance nuclear safety. I know this audience fully understands the enormity of this task. I was not yet a member of the Nuclear Regulatory Commission at that time, but the level of commitment on the part of regulators and operators alike was nonetheless obvious from my vantage point. As Dr. Meserve indicated in INSAG's letter to the Director General, and has been echoed many times, the full extent of the lessons to be learned from Fukushima will continue for years to come, but we must undertake changes without delay. Continued international cooperation is a key to ensuring that lessons are implemented effectively in both the short and long term.

To make a balanced assessment of the global nuclear safety community's progress in addressing and implementing lessons learned from Fukushima, I believe it is important to examine our accomplishments, what still needs to be done, and the challenges we collectively face. I'd like to touch on each of these areas in my remarks today.

In the short term, we have accomplished a number of important actions in our domestic programs. In the United States, efforts to assess and strengthen nuclear safety at our power plants began in the first days after the accident. The NRC has required its licensees to develop improved accident mitigation capabilities for beyond design basis external hazards; provide reliable instrumentation to monitor spent fuel pool levels during a beyond-design-basis event; and provide hardened containment venting systems for boiling water reactors with Mark I and II containments. The NRC also requested information regarding seismic and flooding design as well as staffing and communications during extended station blackout and multi-unit events. The NRC has initiated its own inspections to assess the progress licensees are making.

Throughout this process, the NRC has made openness and transparency a priority. We have held more than 50 public meetings to gather input from the citizens, non-governmental organizations, local, state, and federal governments, and industry. These groups will continue to have a role as we undertake rulemakings on the topics of station blackout and emergency procedure integration. We believe that public communication and involvement are absolutely essential for maintaining confidence in our processes.

I continue to be impressed by the number of ways in which countries around the world have approached these issues, and how much we have learned and will continue to learn from each other. To see the volume of hard work underway, we can look to the national reports prepared by Contracting Parties to the Convention on Nuclear Safety for the recent Extraordinary Meeting. Just as no two nuclear programs are exactly alike, each country's unique attributes have influenced the way in which we have approached comprehensive assessments of nuclear safety. Our main objective, however, is the same: to strengthen nuclear safety worldwide and maintain close cooperative relationships with our global counterparts to ensure a high level of safety for operating and new reactors as well as radioactive materials.

The recent Extraordinary Meeting of Parties to the Convention on Nuclear Safety made substantial progress in furthering the dialogue between regulators and operators to strengthen the international nuclear safety regime. Participants engaged in beneficial discussions about each respective country's efforts to learn and implement lessons in some of the most significant technical areas related to the Fukushima-Daiichi accident. We were pleased to see that, though our methods may vary, we are converging around the same nuclear safety issues.

The Contracting Parties were also successful in revising the Convention Guidelines to enhance the effectiveness of the Convention provisions. As a result of these revisions and other actions taken at the meeting, Contracting Parties will review their national programs to identify areas for change and enhance their programs as appropriate in time for reporting at the Sixth Review Meeting in 2014. The revisions to the Guidelines will also enhance the review process itself. The revised Guidelines build upon the foundation for robust dialogue on safety challenges, enabling Contracting Parties to improve their national programs based on advice, experience, and lessons learned from their peers. We expect that these changes will result in more comprehensive, objective reporting and honest discussion at the Sixth Review Meeting. Taken together, these are immediate steps to enhance the peer review process and strengthen global nuclear safety.

There are many lessons that we must all take away from the accident at Fukushima, but some of the most valuable extend beyond the technical aspects and are embedded in human and organizational behaviors. Among these is safety culture. I commend the courage of our Japanese colleagues in demonstrating critical self-reflection and transparency so that all nations can benefit from their experiences. By continuing to discuss the organizational learning engaged in by the operators to enhance safety culture principles, we will all benefit from the insights gained and be able to apply them to our own operations.

The establishment of strong safety culture principles by operators is only part of the issue. It is critically important for all countries to have strong inspection and enforcement programs with transparent processes and objective criteria. Workers in the nuclear industry need a questioning

attitude and an environment in which they feel free to raise safety concerns. I view this as a challenge that the nuclear regulatory community is facing collectively. In the United States, we have not only incorporated a safety culture assessment into our oversight program, but we are also bound by broader legislative requirements, like provisions to protect “whistleblowers,” so that individuals feel they can report on safety concerns and violations without jeopardizing their careers. Without clear regulatory and legislative criteria, it is difficult to understand how safety culture can be effectively overseen. I say this because, even with all of these provisions in place, safety culture is still a challenge for the United States to promote and assess.

As we move forward in the evolution of our nuclear safety culture, we must address that the fact that the majority of post-Fukushima activities were placed in special categories. In the period immediately following Fukushima, this approach made the most sense. In the United States, for example, we established a task force to address the impacts of the accident on our domestic program, and then a special Fukushima-related directorate to implement the ensuing recommendations. The NRC is now beginning to transition these Fukushima lessons-learned programs from special, segregated actions back to the offices that handle these matters on a routine basis. Far from minimizing these activities’ importance, this approach will ensure that the lessons we have learned are fully integrated into our regulatory work in the United States. We believe that by weaving the lessons learned from Fukushima into nearly all of our regulatory activities, we are ensuring their long-term sustainability, and encourage our international colleagues to do the same.

As a geologist, I cannot conclude without a word about natural hazards. Events like the Tohoku earthquake remind us that natural processes are dynamic, and our understanding of these processes and the parameters that describe them is constantly being improved. Rather than focusing all of our energy into planning for one particular type of accident, we should remember that there is a level of unpredictability associated with natural hazards that we need to face and incorporate in to our safety assessments. We must continually revisit and update our understanding of these hazards and we must have measures in place to address the impact of a variety of natural disasters. Our focus on naturally occurring events must continue to be broad to make nuclear reactors worldwide as safe as possible.

Finally, we recognize that the people of Japan are continuing to strive for a return to normalcy in a country severely impacted by a natural disaster that served as a catalyst for a nuclear accident. We continue to offer our support to the people and Government of Japan and look forward to continued cooperation in learning from their experience.

I appreciate having the opportunity to address this forum today, and look forward to our discussion, and to meeting many of my colleagues throughout the week.

Thank you.